

**Assignment - 1**  
**BASIC PYTHON**

Assignment Date	12.09.2022
Student Name	Madhu Mitha S
Student Roll Number	2019115053
Maximum Marks	2 Marks

**Question-1:**

Split the string. s = "Hi there Sam!"

**Solution:**

```
lst = s.split(" ")
print(lst)
#-----#
#-----#
```

**Screenshot:**

```
In [ ]: s = "Hi there Sam!"

In [ ]: lst = s.split(" ")
        print(lst)

['Hi', 'there', 'Sam!']
```

**Question-2:**

Use .format() to print the following string.

**The diameter of Earth is 12742 kilometers.**

```
planet = "Earth"
diameter = 12742
```

**Solution:**

```
print("The diameter of {0} is {1} kilometers.".format(planet, diameter))
#-----#
#-----#
```

**Screenshot:**

```
In [ ]: planet = "Earth"
        diameter = 12742

In [ ]: print("The diameter of {0} is {1} kilometers.".format(planet, diameter))

The diameter of Earth is 12742 kilometers.
```

### Question-3:

In this nest dictionary grab the word "hello"

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

#### Solution:

```
print(d["k1"][3]["tricky"][3]["target"][3])
#-----#
#-----#
```

#### Screenshot:

```
In [ ]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [ ]: print(d["k1"][3]["tricky"][3]["target"][3])
```

hello

### Question-4.1:

```
In [2]: import numpy as np
```

Create an array of 10 zeros using Numpy.

#### Solution:

```
import numpy as np
aZeros = np.zeros(10)
print(aZeros)
#-----#
#-----#
```

#### Screenshot:

```
In [3]: aZeros = np.zeros(10)
print(aZeros)
```

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

### Question-4.2:

Create an array of 10 fives using Numpy.

#### Solution:

```
import numpy as np
aFives = np.ones(10)*5
print(aFives)
#-----#
#-----#
```

**Screenshot:**

```
In [4]: aFives = np.ones(10)*5
        print(aFives)

[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

**Question-5:**

Create an array of all the even integers from 20 to 35

**Solution:**

```
import numpy as np
evenArray = np.arange(20, 35, 2)
print(evenArray)
#-----#
#-----#
```

**Screenshot:**

```
In [5]: evenArray = np.arange(20, 35, 2)
        print(evenArray)

[20 22 24 26 28 30 32 34]
```

**Question-6:**

Create a 3x3 matrix with values ranging from 0 to 8

**Solution:**

```
import numpy as np
matrix = np.arange(0, 9).reshape(3,3)
print(matrix)
```

**Screenshot:**

```
In [6]: matrix = np.arange(0, 9).reshape(3,3)
        print(matrix)

[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

**Question-7:**

Concatenate a and b. a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

**Solution:**

```
a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b), axis=None)
print(c)
```

```
#-----#  
#-----#
```

**Screenshot:**

```
In [7]: a=np.array([1,2,3])  
        b=np.array([4,5,6])  
        c=np.concatenate((a,b), axis=None)  
        print(c)  
  
[1 2 3 4 5 6]
```

**Question-8:**

```
In [8]: import pandas as pd
```

Create a dataframe with 3 rows and 2 columns

**Solution:**

```
import pandas as pd  
df=pd.DataFrame([[1,2], [3,4], [5,6]] , columns=['column1', 'column2'])  
print(df)
```

**Screenshot:**

```
In [11]: df=pd.DataFrame([[1,2], [3,4], [5,6]] , columns=['column1', 'column2'])  
        print(df)  
  
   column1  column2  
0         1         2  
1         3         4  
2         5         6
```

**Question-9:**

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023.

**Solution:**

```
import pandas as pd  
dates = pd.date_range(start="1-1-2023", end="10-2-2023")  
for i in dates:  
    print(i)  
#-----#  
#-----#
```

**Screenshot:**

```
In [14]: dates = pd.date_range(start="1-1-2023", end="10-2-2023")
         for i in dates:
             print(i)
```

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
```

```
..
```

```
2023-09-25 00:00:00
2023-09-26 00:00:00
2023-09-27 00:00:00
2023-09-28 00:00:00
2023-09-29 00:00:00
2023-09-30 00:00:00
2023-10-01 00:00:00
2023-10-02 00:00:00
```

#### Question-9:

Create 2D list to DataFrame.

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

**Solution:**

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
#-----#
#-----#
```

**Screenshot:**

```
In [16]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [19]: df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
```

	col1	col2	col3
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24